What is claimed is:

1. A playback system for reproducing audio data and reading acoustic control data comprising

a demultiplexer for retrieving audio data and acoustic control data

said acoustic control data providing a predetermined number N of inputs to

gain and phase circuits,

delay and reverberation circuits,

equalizer circuits, and

gain/attenuation circuits,

said gain/attenuation circuits connected to output to a second predetermined number M of summation channels,

said audio data feeding serially through said

gain and phase circuits,

delay and reverberation circuits, and

equalizer circuits.

2. The playback system for reproducing audio data and reading acoustic control data of claim 1 further comprising a listener input circuit connected to provide signals, said listener input signals adapted to alter default data from said media and to interact dynamically with bias information in said default data.

3. The playback system for reproducing audio data and reading acoustic control data of claim 1 further comprising a player type register providing a signal indicative of parameters of the playback medium to said gain and phase circuits, delay and reverberation circuits, and equalizer circuits to provide information indicative of the characteristics of a player for the media.

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4. The playback system for reproducing audio data and reading acoustic control data of claim 2 further comprising a player type register providing a signal indicative of parameters of the playback medium to said gain and phase circuits, delay and reverberation circuits, and equalizer circuits to provide information indicative of the characteristics of a player for the media.

5. The playback system for reproducing audio data and reading acoustic control data of claim 3 wherein said player type register is adapted to provide information to active noise cancellation apparatus.

6. The playback system for reproducing audio data and reading acoustic control data of claim 4 wherein said player type register is adapted to provide information to active noise cancellation apparatus.

7. The playback system for reproducing audio data and reading acoustic control data of claim 1, further comprising, a loop closing subsystem interfaced to said playback system comprising

a programmable delay,

a second generator for test signals,

precision microphones to receive returned information from said test signals,

connections to provide parameter corrections to parameters of said playback system.

8. The playback system for reproducing audio data and reading acoustic control data of claim 2, further comprising, a loop closing subsystem interfaced to said playback system comprising

a programmable delay,

a second generator for test signals,

precision microphones to receive returned information from said test signals,

connections to provide parameter corrections to parameters of said playback system.

9. The playback system for reproducing audio data and reading acoustic control data of claim 3, further comprising, a loop closing subsystem interfaced to said playback system comprising

a programmable delay,

a second generator for test signals,

precision microphones to receive returned information from said test signals,

connections to provide parameter corrections to parameters of said playback system.

10. The playback system for reproducing audio data and reading acoustic control data of claim 4, further comprising, a loop closing subsystem interfaced to said playback system comprising

a programmable delay,

a second generator for test signals,

precision microphones to receive returned information from said test signals,

connections to provide parameter corrections to parameters of said playback system.

11. The playback system for reproducing audio data and reading acoustic control data of claim 5, further comprising, a loop closing subsystem interfaced to said playback system comprising

a programmable delay,

a second generator for test signals,

precision microphones to receive returned information from said test signals,

connections to provide parameter corrections to parameters of said playback system.

12. The playback system for reproducing audio data and reading acoustic control data of claim 6, further comprising, a loop closing subsystem interfaced to said playback system comprising

a programmable delay,

a second generator for test signals,

precision microphones to receive returned information from said test signals,

connections to provide parameter corrections to parameters of said playback system.

13. The playback system for reproducing audio data and reading acoustic control data of claim 1, wherein said playback system further comprises a metadata display system.

14. The playback system for reproducing audio data and reading acoustic control data of claim 7, wherein said playback system further comprises a metadata display system

15. A system for recording acoustical control data to optimize performance of audio reproduction and provide data for the recreation of an original acoustic environment comprising

a recording system comprising

a precision microphone to provide signals to an authoring system and test signal generator,

said authoring system generating and recording acoustic control information comprising acoustic venue information and control room venue information,

said acoustic venue information comprising

studio dynamic data comprising data selected from the group concerning

reverb time,

delay time,

standing waves,

ambient noise,

room frequency response, and

room dynamics information

said control room venue information comprising data concerning

reverb time,

delay time,

standing waves, and

ambient noise

said test signal generator adapted to output preprogrammed test signals for a predetermined time and to detect received returned signals to determine recording acoustic information,

a data multiplexer to bring together as multiplexed data said acoustic control information and audio

information,

recording apparatus for fixing said multiplexed data in a medium capable of mass reproduction.

16. The system for recording acoustical control data to optimize performance of audio reproduction and provide data for the recreation of an original acoustic environment of claim 15 wherein said acoustic venue information further comprises

meta data comprising data selected from the group concerning

instrument placement,

instrument separation and partitioning

peak or RMS limiting

console recorded information comprising

equalization

compression.

17. A system for recording and reading acoustical control data and playing back acoustical information controlled by such data to optimize performance of audio reproduction and recreate an original acoustic environment comprising

a recording system comprising

a precision microphone to provide signals to an authoring system and test signal generator,

said authoring system generating and recording acoustic control information comprising acoustic venue informa-

tion and control room venue information,

said acoustic venue information comprising

meta data comprising data selected from the group concerning

instrument placement,

instrument separation and partitioning placement,

peak or RMS limiting

console recorded information comprising

equalization

compression

studio dynamic data comprising data selected from the group concerning

reverb time,

delay time,

standing waves,

ambient noise,

room frequency response, and

room dynamics information

said control room venue information comprising data selected from the group concerning

reverb time,

delay time,

standing waves, and

ambient noise

said test signal generator adapted to output

preprogrammed test signals for a predetermined time and to detect received returned signals to determine recording acoustic information,

a data multiplexer to bring together as multiplexed data said acoustic control information and audio information,

recording apparatus for fixing said multiplexed data in a medium capable of mass reproduction,

media produced from said mass reproduction medium,

a playback system for reproducing audio data and reading acoustic control data comprising

a demultiplexer for retrieving audio data and acoustic control data

said acoustic control data providing a predetermined number N of inputs to

gain and

metadata display systems, and

a player type register providing a signal indicative of parameters of the playback medium to said gain and phase circuits, delay and reverberation circuits, and equalizer circuits to provide information indicative of the characteristics of a player for the media,

said player type register adapted to provide information to active noise cancellation apparatus,

a loop closing subsystem interfaced to said playback system comprising

a programmable delay,

a second generator for test signals,

precision microphones to receive returned information from said test signals,

connections to provide parameter corrections to parameters of said playback system.

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